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STUDIES IN PORTO RICAN PARASITIC FUNGI—II

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In the May number of *Mycologia*, there appeared a report by the writer of this article which was the first of a series on Porto Rican Parasitic Fungi. A second article, by Mr. Garman, was published in the November number of *Mycologia*. This is the third of the series and is a report on the genus *Cercospora*. The work was done according to the method used in work reported in the first paper, when acknowledgments were made for valuable assistance rendered. The specimens were all collected by Dr. F. L. Stevens during the years 1912 and 1913 and the material is in the herbarium of the University of Illinois.

1. *CERCOSPORA CONSPICUA* Earle, Bull. N. Y. Bot. Gard. 3: 312.
1904

On leaves of *Cleome* in Porto Rico: Mayagüez, 6728; —, 19.

2. *CERCOSPORA PORTORICENSIS* Earle, Muhlenbergia 1: 15. 1901

On leaves of *Piper hispidum* in Porto Rico: Maricao, 4792, 4802; Rosario, 4804.

3. *CERCOSPORA CAJANI* P. Henn. Hedwigia 41: 309. 1902

On leaves of *Cajanus indicus* in Porto Rico: Aquas Buenas, 294; Aquada, 5100; Maricao, 4832; Anasco, 3556; Dos Bocas below Utuado, 6572, 6058, 6029; Guayanilla, 5874; Luguillo Forest, 5608; Hormigueros, 226; Monte de Oro, 5735.

4. *CERCOSPORA VAGINAE* Kreuger, Walker & Went. Mededeel.
Profest. Suiker. West-Java 24: 8. 1896

On leaves of *Saccharum officinalis* in Porto Rico: Johnston 7001.

5. *CERCOSPORA MUCUNAE* Syd. Bibl. Hedwigia 42: 136. 1903

On leaves of *Mucuna pruriens* in Porto Rico: Anasco, 3601; San German, 250; Utuado, 4685, 4691; Dos Bocas below Utuado, 6555, 6009; Mayagüez, 3951; Anasco, 3535; Rosario, 3779, 4704; Monte Alligrillo, 4779; Rosario, 4806; Utuado, 4929.

6. *CERCOSPORA ROSICOLA* (Pass.) Sacc. Fungi Ital. pl. 665

On leaves of *Rosa* in Porto Rico: Maricao, 3447, 737, 4806.

7. *CERCOSPORA BLOXAMI* Berk. & Br.

Spots spherical to ovate, 2-5 mm. in diameter, sordid-white to yellowish-brown, margin slightly darker; conidiophores fasciculate, simple, fuscus, paler at the tips, conidial scars evident, 1-2-septate, $75.6-162 \times 5.4-7.2 \mu$; conidia elongate-fusiform, acuminate at one end, 5-7-septate, hyaline, $50.4-144 \times 2.7-3.6 \mu$.

On leaves of *Brassica rapae* and *B. napi* in Porto Rico; Quebradillos, 5121; Bayamon, 449.

This differs from *C. Armoraciae* and *C. brassicola* in size and shape of conidia, and in size of conidiophores.

The original description of *Cercospora Bloxami* on *Brassica* is very meager, lacking in many of the essential characters and measurements. The present emended description is drawn from the Porto Rican specimens.

8. *CERCOSPORA HYDROPIPERIS* (Thüm.) Speg. Anal. Soc. Sci. Argent. 1: 191. 1867

Helminthosporium Hydropiperis Thüm. Myc. Univ. n. 1087.

Cercospora Polygonorum Cooke, Hedwigia 17: 39. 1878.

On leaves of *Polygonum punctata* in Porto Rico: Utuado, 4586, 4578; Coamo, 91; —, 91; Corozal, 419; Ciales, 27; Mayagüez, 1154.

9. *CERCOSPORA LEPIDII* Peck, Ann. Rep. N. Y. State Mus. 35: 140. 1884

On leaves of *Lepidium* sp. in Porto Rico: Mona Island, 6352.

10. *CERCOSPORA HIBISCI* Tracy & Earle, Bull. Torrey Club **22** :
179. 1895

On leaves of *Hibiscus tiliaceus* in Porto Rico: Rosario, 3793; Las Marias, 310; Dos Bocas below Utuado, 6618, 6564; Maricao, 4797; Rio Maricao above Maricao, 3630.

11. *CERCOSPORA PHYLLITIDIS* Hume, Bull. Torrey Club **27** : 577.
1900

On leaves of *Polypodium* sp. in Porto Rico: Barros, 121.

12. *CERCOSPORA AMARYLLIDIS* Ellis & Ev. Jour. Myc. **3** : 14,
1887

On leaves of *Hymenocallis* sp. in Porto Rico: Santurce, 244; Coamo, 836.

13. *CERCOSPORA DENSISIMA* Speg. 1899

On leaves of *Sida* sp. in Porto Rico: Mona Island, 6361, 6354.

14. *CERCOSPORA CASSAVAE* Ellis & Ev. Bull. Torrey Club **22** : 438.
1895

On leaves of *Cassava* sp. in Porto Rico: Dos Bocas below Utuado, 6557.

Our material differs slightly from the description in that the conidiophores are longer, and sometimes septate, and are brown in color with hyaline tips.

15. *CERCOSPORA CHAMAECRISTAE* Ellis & Kellerman, Jour. Myc.
4 : 7. 1888

On leaves of *Cassia occidentalis* and *C. alata* in Porto Rico: Dos Bocas below Utuado, 6054; Santurce, 269a; Anasco, 3586; Mayagüez, 1276.

In our specimens, the host *C. occidentalis* has a definite spot; the length of the conidiophores is slightly different from the description, being as long as 216μ ; conidia usually 3-5-septate.

16. *Cercospora maricaoensis* sp. nov.

Spots diffuse, brown, scattered over the leaf, amphigenous, more numerous below; conidiophores often branched, loosely fascicu-

late, septate, pale-olivaceous, $54-144 \times 5.4-7.2 \mu$; conidia oblong-cylindrical, hyaline, sometimes slightly curved, 3-5 septate, $36-81 \times 3.6-5.4 \mu$.

On leaves of *Teramnus uncinatus* (L.) Sw. in Porto Rico: Maricao, 764; Dos Bocas below Utuado, 6554 (type); —, 5815; Cabo Rojo, 2271.

17. *Cercospora boringuensis* sp. nov.

Spots definite, amphigenous, reddish-brown, varying from spherical to irregular, often coalescing and forming large, brown patches on the leaves; conidiophores fasciculate, simple, septate, brown, $72-144 \times 3.6-5.4 \mu$; conidia clavate, slightly curved, hyaline, 3-7-septate, $36-54 \times 5.4-7.2 \mu$.

On leaves of *Calapogonium orthocarpum* Urban in Porto Rico: Mayagüez, 6752 (type).

18. *Cercospora Stevensii* sp. nov.

Spots amphigenous, reddish-brown above, black below, 1-2 mm. in diameter; conidiophores densely fasciculate, simple, cylindrical, brown, septate, some peculiarly twisted; conidia hyaline, oblong-cylindric, often slightly curved, septate, granular, $32.4-72 \times 3.6-6.3 \mu$.

On leaves of *Andira* sp. in Porto Rico: Dos Bocas below Utuado, 600 (type), 6549.

19. *Cercospora guanicensis* sp. nov.

Spots amphigenous, spherical to ovate, yellow to greenish-brown above, reddish-brown below, conidiophores, densely fasciculate, septate, unbranched, $76-96 \times 4.8 \mu$; conidia oblong-cylindric, subhyaline, slightly curved, 3-6-septate, granular, $39.6-96 \times 3.6-7.2 \mu$.

On leaves of *Guilandina crista* in Porto Rico: Guanica, 6840 (type), 6845.

Associated with this is a species of *Dothidella*.

20. *Cercospora Malachrae* sp. nov.

Spots amphigenous, spherical, 2-5 mm. in diameter, scattered, the centers white, surrounded by a black, slightly elevated margin, the portion of the leaf about the spot reddish-purple to purplish-black, often large areas infected; conidiophores fascicu-

late, dark-brown, few septate, $63-144 \times 3.6-5.4 \mu$; conidia hyaline, cylindrical, $90-108 \times 3.6 \mu$.

On leaves of *Malachra rotundifolia* in Porto Rico: San Sebastian, 5199 (type); Ponce, 5003; Guanica, 338a; Yauco, 3246; San German, 5840; Vega Baja, 431, 381.

21. ***Cercospora Bradburyae* sp. nov.**

Spots amphigenous, varying from definite, spherical, 1-2 mm. in diameter to diffuse, yellowish-brown to rusty-red; conidiophores densely fasciculate, simple, fuscus, $12-36 \times 3.6-4.8 \mu$; conidia elongate-cylindrical, hyaline, 5-7-septate, $48-96 \times 2.4-3.6 \mu$.

On leaves of *Bradburya pubescens* in Porto Rico: Mayagüez, 6296, 3930, 479; Luguillo Forest, 5609; Dos Bocas below Utuado, 6558; San German, 5796, 5833, 5785; Guayama, 5412; Jayuya, 446a; Hormigueros, 225a; Caba Rojo, 6482; Rosario, 446 (type).

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